

AMENDMENTS TO THE CLAIMS

Applicant has reproduced all of the claims of the application. Please amend the claims as follows, by deleting the matter struck through and adding the underlined matter:

1. (Currently amended) A blood vessel wall defining device for repairing an aneurysm comprising in combination,

a percutaneously-insertable structural frame extending between a first end and a second end and having an unexpanded diameter which is smaller than the diameter of said blood vessel for said structural frame to be percutaneously placed into said blood vessel, said structural frame being expandable to form a generally cylindrical structural skeleton having a slightly larger diameter than said blood vessel to facilitate the securing of said structural skeleton in position in said blood vessel;

said structural frame including a plurality of longitudinal support rods;

a tubular sheath;

said longitudinal support rods being attached to the tubular sheath for at least a portion thereof of the lengths of the longitudinal support rods;

a plurality of expandable ring stents longitudinally displaced from each other internally of said tubular sheath;

said ring stents having a smaller deployment diameter prior to insertion into a blood vessel and an expanded diameter in an uncoiled position;

~~said ring stents having ratchet means for locking in an expanded position internally against an inner surface of said sheath~~

19 wherein said support rods are devoid of said tubular sheath at a position along the length
20 of said support rods where blood can move laterally between the support rods to supply blood to
21 branches off the blood vessel.

1 2. (Previously presented) A blood vessel wall defining device for repairing an aneurysm
2 comprising in combination,

3 a percutaneously-insertable structural frame extending between a first end and a second
4 end and having an unexpanded diameter which is smaller than the diameter of said blood vessel
5 for said structural frame to be percutaneously placed into said blood vessel, said structural frame
6 being expandable to form a generally cylindrical structural skeleton having a slightly larger
7 diameter than said blood vessel to facilitate the securing of said structural skeleton in position in
8 said blood vessel;

9 said structural frame including a plurality of longitudinal support rods;

10 a tubular sheath;

11 said support rods being attached to the tubular sheath for at least a portion thereof;

12 a plurality of expandable ring stents longitudinally displaced from each other internally of
13 said tubular sheath;

14 said ring stents having a smaller deployment diameter prior to insertion into a blood
15 vessel and an expanded diameter in an uncoiled position;

16 said ring stents having ratchet means for locking in an expanded position internally
17 against an inner surface of said sheath,

18 wherein said tubular sheath extends less than the full length of said longitudinal support
19 rods, leaving a portion of said longitudinal support rods uncovered for the passage of blood
20 between the uncovered portion of said longitudinal support rods.

1 3. (Currently amended) A blood vessel wall defining device for repairing an aneurysm
2 comprising in combination,
3 a percutaneously-insertable structural frame extending between a first end and a second
4 end and having an unexpanded diameter which is smaller than the diameter of said blood vessel
5 for said structural frame to be percutaneously placed into said blood vessel, said structural frame
6 being expandable to form a generally cylindrical structural skeleton having a slightly larger
7 diameter than said blood vessel to facilitate the securing of said structural skeleton in position in
8 said blood vessel;
9 said structural frame including a plurality of longitudinal support rods;
10 a tubular sheath;
11 said support rods being attached to the tubular sheath for at least a portion thereof;
12 a plurality of expandable ring stents longitudinally displaced from each other internally of
13 said tubular sheath;
14 said ring stents having a smaller deployment diameter prior to insertion into a blood
15 vessel and an expanded diameter in an uncoiled position;
16 said ring stents having ratchet means for locking in an expanded position internally
17 against an inner surface of said sheath,

18 wherein said tubular sheath forms a passage therethrough between said first and second
19 ends ~~that~~ wherein one of said first and second ends provides fluid access laterally between the
20 longitudinal support rods so that branches off the blood vessel can be supplied with blood.

1 4. (Previously presented) The device of claim 1, wherein said ring stents are expandable to
2 selected progressively uncoiled positions so that the structural frame can be expanded to different
3 breadths along its length.

1 5. (Previously presented) The device of claim 1, wherein said longitudinal support rods are
2 flexible and are able to conform to the shape of the vessel between said ring stents.

1 6. (Previously presented) The device of claim 1, wherein said structural frame surrounds
2 said sheath, and said ring stents are biased against said structural frame.

1 7. (Previously presented) The device of claim 1, wherein said ring stents are each arranged
2 in a coil and are expandable for urging the structural frame toward engagement with the interior
3 surface of an irregularly shaped vessel.

1 8. (Previously presented) A blood vessel wall defining device for repairing an aneurysm
2 comprising in combination:
3 a percutaneously-insertable structural frame including a plurality of elongated

flexible support members arranged approximately parallel to one another and formed in a tubular array for insertion into a vessel of the human body,

a tubular open ended sheath affixed to said elongated flexible support members of said frame for collapsibly supporting said elongated flexible support members in a tubular configuration between an unexpanded diameter and expanded diameters,

a plurality of ring stents positioned at spaced intervals along the lengths of and within said tubular array of elongated flexible support members, and arranged to urge said elongated flexible support members from their unexpanded diameter when said device is to pass through a vessel to their expanded diameter when said device is to be expanded into engagement with a vessel,

said elongated flexible support members being devoid of said sheath at a position along the length of said elongated flexible support members whereby blood may pass between the elongated flexible support members, and

said ring stents configured to expand in response to the inflation of a balloon catheter to various diameters for causing said device to engage an irregularly shaped vessel .

9. (Currently amended) A blood vessel wall defining device for repairing an aneurysm comprising in combination:

a plurality of elongated flexible support members arranged approximately parallel to one another and formed in a tubular array for insertion into a blood vessel of the human body, a plurality of ring stents positioned at spaced intervals along the lengths of and

6 within said tubular array of elongated flexible support members, and arranged to urge said
7 elongated flexible support members from their unexpanded diameter when said device is to pass
8 through a vessel to their expanded diameter when said device is to be expanded into engagement
9 with a vessel,

10 said ring stents and said elongated flexible support members are configured so that the
11 elongated flexible support members are expanded by the ~~balloon-expanded~~ ring stents in
12 response to the inflation of a balloon catheter to various diameters for causing said device to
13 engage an irregularly shaped vessel, and

14 said elongated flexible support members configured to support the blood vessel at
15 positions between said ring stents, and

16 a tubular sheath, said support members attached to and extending along said tubular
17 sheath,

18 said support members being devoid of said tubular sheath at a position along the length of
19 said support members such that blood can move laterally between the elongated support
20 members and supply blood to branches intersecting with the vessel and the elongated support
21 members..